



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------|------------------|
| 09/915,139 | 07/25/2001 | Michael Karr | 04899-042001 | 6451 |
| 959 | 7590 | 05/03/2004 | EXAMINER | |
| LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109 | | | COURTENAY III, ST JOHN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2126 | 16 |

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,139

Applicant(s)

KARR ET AL.

Examiner

St. John Courtenay III

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15, 18, 22, 24-36, 38, 41 and 45 is/are rejected.
- 7) ☒ Claim(s) 14, 16, 17, 19-21, 23, 37, 39, 40, 42-44 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



ST. JOHN COURTENAY III
PRIMARY EXAMINER

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Detailed Action

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 13, 15, 18, 22, 24-36, 38, 41 & 45 are rejected under 35 U.S.C. § 102(b) as being anticipated by **Wang** (U.S. Patent 5,805,887).

As per independent claim 1:

Wang teaches a method comprising:

- at a first point in a program in a computer programming language having dynamic types and overloaded functions [see C++ language, col. 2, line 40; see also discussion col. 7, lines 66-68 and col. 8, lines 1-6], constructing, using a function name, a function data structure, the function data structure comprising information leading to a set of functions visible at the first point [see "universal pointer object" and associated discussion col. 3, line 24, i.e., "the main file 26 uses the universal pointer class to call these member functions through a universal pointer object or an array of universal pointer objects."];

- at a second point, applying the function data structure to an argument list, the applying comprising selecting a function using the function data structure and calling the selected function [C++ language, see col. 2, line 40, see discussion of calling a member function of the universal pointer object, col. 3, lines 36-42, i.e., "the call statement includes a first argument representing the address of the object of the member function].

As per independent claim 24:

This claim is rejected for the same reasons detailed above in the rejection of independent claim 1, and also for the following additional reasons:

Wang teaches a computer program product, stored in a computer readable medium, comprising instructions to cause a computer to:

- at a first point, construct a function data structure using a function name; the function data structure comprising information leading to a set of functions visible at the first point [see "universal pointer object" and associated discussion col. 3, line 24, i.e., "the main file 26 uses the universal pointer class to call these member functions through a universal pointer object or an array of universal pointer objects."];
- at a second point, apply the function data structure to an argument list selecting a function from the function data structure and call the selected function [see discussion of calling a member function of the universal pointer object, col. 3, lines 36-42, i.e., "the call statement includes a first

argument representing the address of the object of the member function].

As per dependent claims 2 & 25:

Wang teaches the constructing occurs within a first scope, and wherein the applying the function data structure comprises selecting, from the set of functions led to by the function data structure, the function that would be selected if the function name were applied within the first scope to the argument list [see discussion of calling a member function of the universal pointer object, col. 3, lines 36-42, i.e., "the call statement includes a first argument representing the address of the object of the member function].

As per dependent claims 3 & 26:

Wang teaches the function data structure is applied in a second scope that is different from the first scope [see discussion of member functions called through the universal pointer object and member functions of the universal pointer object [col. 3, lines 20-25; see also discussion of static and non static typed member functions, col. 3, lines 50-57].

As per dependent claims 4 & 27:

Wang inherently teaches the information further comprises a pointer which leads to native code [i.e., native executable code].

As per dependent claims 5 & 28:

Wang inherently teaches the information further comprises information used by the native code [i.e., native executable code].

As per dependent claims 6 & 29:

Wang teaches the information further comprises a pointer which leads to native code which implements a top level function [see "pointer to the list" or "list pointer", col. 4, line 19].

As per dependent claims 7 & 30:

Wang teaches the information further comprises a pointer which leads to a mapping associating a type with native code which implements a function [see "member function type argument is retrieved from the variable argument list ..., col. 4, 39].

As per dependent claims 8 & 31:

Wang teaches the information further comprises a pointer leading to a lexical context [inherent], and further comprises a pointer leading to native code which implements the function using the lexical context [see "Universal Pointer Class" discussion col. 5, beginning line 9].

As per dependent claims 9 & 32:

Wang inherently teaches the information further comprises a pointer leading to interpreter code which implements the function [Wang explicitly discloses the invention is not limited to the C++ programming language, col. 8, lines 18-21].

As per dependent claims 10 & 33:

Wang inherently teaches the information further comprises a pointer which leads to a mapping associating a type with

interpreter code for the function [Wang explicitly discloses the invention is not limited to the C++ programming language, col. 8, lines 18-21].

As per dependent claims 11 & 34:

Wang inherently teaches the information further comprises a pointer leading to a lexical context, and further comprises a pointer leading to interpreter code which implements the function [see "Universal Pointer Class" discussion col. 5, beginning line 9; Wang explicitly discloses the invention is not limited to the C++ programming language, col. 8, lines 18-21].

As per dependent claims 12 & 35:

Wang teaches the information further comprises information (i.e., an address or pointer that points to the function) which leads to the function name [see "second argument representing a pointer to a member function", col. 3, lines 34-35].

As per dependent claims 13 & 36:

Wang teaches the information further comprises information leading to an auxiliary function [see "Universal Pointer Class" discussion col. 5, beginning line 9].

As per dependent claims 15 & 38:

Wang teaches the information further comprises information used for storage management of the function data structure [see "Universal Pointer Class" discussion col. 5, beginning line 9].

As per dependent claims 18 & 41:

Wang teaches the information further comprises a pointer leading to a first auxiliary function; applying the first auxiliary function to the function data structure and obtaining a result from the applying [see "Universal Pointer Class" discussion col. 5, beginning line 9].

As per dependent claims 22 & 45:

Wang teaches the information further comprises a pointer leading to a second auxiliary function, and wherein applying the second auxiliary function to the function data structure causes at least a portion of the information contained in or pointed to by the function data structure to be returned as at least one value [see "second argument representing a pointer to a member function", col. 3, lines 34-35].

Allowable Subject Matter:

Claims 14, 16, 17, 19-21, 23, 37, 39, 40, 42-44, 46 appear to be allowable over the prior art of record if rewritten to include all of the limitations of the base claim and any intervening claims, subject to the results of a final search. The prior art of record does not appear to teach or suggest the limitations of the aforementioned dependent claims. These claims stand objected to as being dependent upon a rejected base claim.

Prior Art not relied upon:

Please refer to the references listed on the attached PTO-892 which are not relied upon in the claim rejections detailed above.

Application/Control Number:
09/915,139
Art Unit: 2126

Page 8

How to Contact the Examiner:

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **St. John Courtenay III** whose voice telephone number is **(703) 308-5217**. A voice mail service is also available at this number. Normal Flex work schedule: M – F 7:30 AM - 4:00 PM

- **All responses sent by U.S. Mail should be mailed to:**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Patent Customers advised to FAX communications to the USPTO

<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/faxnotice.pdf>

Effective Oct. 15, 2003, ALL patent application correspondence transmitted by FAX must be directed to the new PTO central FAX number:


**NEW PTO CENTRAL FAX NUMBER:
703-872-9306**

-
- Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: (703) 305-3900.**

Please direct inquiries regarding fees, paper matching, and other issues not involving the Examiner to:

Technical Center 2100 CUSTOMER SERVICE: 703 306-5631

The Manual of Patent Examining Procedure (MPEP) is available online at:
<http://www.uspto.gov/web/offices/pac/mpep/index.html>


**ST. JOHN COURTENAY III
PRIMARY EXAMINER**